

## CLAIMS

- 5           1.     A packaging architecture system for a transceiver comprising:  
            a forward vertical carrier having an optical converter;  
            a rearward horizontal block, the rearward horizontal block oriented  
about 90 degrees from the forward vertical carrier; and  
            a flexible circuit operably connected between the forward vertical  
carrier and the rearward horizontal block, the flexible circuit having a plurality of  
10           electrical layers.
2.     The system of claim 1 wherein the plurality of electrical layers  
further comprises a power layer, a ground layer, and a signal layer.
3.     The system of claim 1 wherein the optical converter is at least one  
15           laser.
4.     The system of claim 1 wherein the optical converter is at least one  
photodetector.
5.     The system of claim 1 further comprising:  
            an electronic component die thermally connected to the forward  
vertical carrier.
- 25           6.     The system of claim 1 further comprising:  
            an electronic component die thermally connected to the rearward  
horizontal block.

7. The system of claim 1 further comprising:  
a heat sink having a heat sink vertical portion and a heat sink horizontal portion, the heat sink vertical portion being attached to the forward vertical carrier and the heat sink horizontal portion being attached to the rearward horizontal block.

8. The system of claim 1 wherein the forward vertical carrier has a component face, the component face having a ground land and a power land in the plane of the component face.

9. The system of claim 8 further comprising:  
a laser die attached to the ground land and a photodetector die attached to the power land.

10. The system of claim 1 further comprising:  
a lens housing assembly aligning an optical lens array with the optical converter.

11. A packaging architecture system for a transceiver comprising:  
first means for supporting an optical converter;  
second means for supporting an electrical connection, the second supporting means oriented about 90 degrees from the first supporting means;  
and  
means for electrically connecting the optical converter and the electrical connection, the electrical connecting means having a plurality of electrical layers.

12. The system of claim 11 wherein the plurality of electrical layers further comprises a power layer, a ground layer, and a signal layer.

5 13. The system of claim 11 wherein the optical converter is at least one laser.

14. The system of claim 11 wherein the optical converter is at least one photodetector.

10 15. The system of claim 11 further comprising:  
an electronic component die thermally connected to the first supporting means.

15 16. The system of claim 11 further comprising:  
an electronic component die thermally connected to the second supporting means.

20 17. The system of claim 11 further comprising:  
means for removing heat thermally connected to the first supporting means and the second supporting means.

25 18. The system of claim 11 wherein the first supporting means has a component face, the component face having means for providing a ground and means for providing power, the ground providing means and the power providing means being located in the plane of the component face.

19. The system of claim 18 further comprising:  
a laser die attached to the ground providing means and a  
photodetector die attached to the power providing means.

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20. The system of claim 11 further comprising:  
means for aligning a lens with the optical converter.

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21. A packaging architecture system for a transceiver comprising:  
a heat sink, the heat sink having a heat sink vertical portion and a  
heat sink horizontal portion, the heat sink vertical portion being oriented about 90  
degrees from the heat sink horizontal portion;

a forward vertical carrier having an optical converter, the forward  
vertical carrier being attached to the heat sink vertical portion;

a rearward horizontal block, the rearward horizontal block being  
attached to the heat sink horizontal portion; and

a flexible circuit operably connected between the forward vertical  
carrier and the rearward horizontal block, the flexible circuit having a plurality of  
electrical layers.

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22. The system of claim 21 wherein the plurality of electrical layers  
further comprises a power layer, a ground layer, and a signal layer

23. The system of claim 21 wherein the optical converter comprises at  
least one laser.

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24. The system of claim 21 wherein the optical converter is at least one  
photodetector.